CALIFORNIA STATE SCIENCE FAIR
2017 PROJECT SUMMARY

Name(s)
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Project Number
J1915

Project Title
Dietary Protein, Dog Urine, and Its Effect on Your Lawn

Abstract

Objectives/Goals
The objective was to determine how dietary protein would affect grass morbidity in response to dog urine.

Methods/Materials
A children#s swimming pool was planted with soil and sod. Two dogs were fed a diet with 18% protein. Samples of urine were collected daily from each dog. The samples were applied to sections of the grass for 6 days in 2 sections per dog. The dogs were then transferred to a 30% protein diet and urine samples were collected. The samples were applied to the grass for 6 days in 2 sections per dog. Urine pH and concentration were evaluated. Volunteers blindly evaluated grass morbidity/damage 7 days after the urine was applied. The results were analyzed.

Results
Urine from dogs on the higher protein diet caused more grass morbidity than urine from dogs on the lower protein diet. On a scale of 1-5, the average morbidity score for the higher protein diet section was 3.7 whereas the average morbidity score for the lower protein diet section was 2.7.

Conclusions/Discussion
Because of diets effect on nitrogen levels, a lower protein diet can help reduce the amount of damage dog urine does to your lawn.

Summary Statement
I showed that higher amounts of dietary protein in dog food can increase that amount of damage that the dog's urine causes to lawns.

Help Received
Dr. Stacy Pettigrew, a veterinarian at Jackson Creek Veterinary Clinic taught me how to preform a basic urinalysis and provided the tools for me to preform them.